



Never Apologize for Dreaming Big

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Daniela Fernandez founded the Sustainable Ocean Alliance (SOA) when she was just 19 years old. This organization develops leaders, cultivates ideas, and accelerates solutions in the field of ocean health and sustainability – and is the world’s largest network of young environmental leaders, with contributors from more than 150 countries worldwide. SOA leads the way in innovation by offering a leadership program, as well as an Oceans Solutions Accelerator aimed at supporting brilliant startups that can contribute to the health of the ocean. For her work, Daniela has been recognized by U.S. Secretary John Kerry and former President Bill Clinton among many others. She is also a member of the World Economic Forum’s Friends of Ocean Action, and has been nominated by the Forbes 30 Under 30 for her environmental achievements.

Values • **Imaginative** • **Flexible** • **Creative** • **Committed** • **Enthusiastic**

Lessons Learned

- Daniela changed her career track so she could help encourage entrepreneurs who were *doing* something to change things.
- Communication channels are important so that young people can interact with high-level leaders.
- Think about the problems we face and find a way to propose them to those who can help make them happen.

Language Arts

- Choose a waterway conservation/sustainability project. Write a three-minute pitch designed to recruit young people to help with this project. Then, write a three-minute pitch designed to attract investors to your project. Compare and contrast these two pitches: How are they similar? How are they different?
- Which water conservation/sustainability issue needs attention in your area? Imagine that you are deciding to start an organization to tackle this issue. Write a one-page mission statement explaining why this cause is important, what your goals are, and how you plan to achieve them.

- Write a script that could be used by a phone operator in a one-minute recruitment call to motivate someone to get involved in the water conservation/sustainability project you have chosen.

STEM Activities

- After her enlightening meeting with the United Nations, Daniela grabbed a pen and paper and turned her realizations into a tangible idea that would become the SOA (Sustainable Oceans Alliance). Many innovative and disruptive ideas start this way, often as a simple idea jotted on a piece of paper. Think about an issue you are passionate about, then grab a pen and paper and brainstorm about three ways you might make an impact. On the first piece of paper, jot down how you could organize people to help you solve your problem. The second page should be about a technological innovation you could create (or use) to solve the problem. On the third page, combine the ideas from the previous two pages, and imagine how this technology could be used in conjunction with your movement to solve the problem you have chosen.
- [Recent research](#) found that in 2016, the United States put between 1.1 and 2.2 billion pounds of plastic into the oceans, through “littering, dumping, and mismanaged exports.” Put that number into perspective. What else weighs a billion pounds? Make a comparison.
- Since reducing plastic in oceans is of paramount importance (and is specifically addressed in Target #1 of the 14th Sustainable Development Goal (SDG), explore a variety of ways we can reduce plastic production. SDG Indicator 14.1.1 specifically mentions the measuring of “floating plastic debris density.” What does this mean? Are these numbers equal around the world? What are the concentrations of plastic in various parts of the world? Explain these concentrations in simple terms to your classmates. What are the effects of this plastic on ocean ecosystems? [Consult this report for answers to these questions.](#)

Sustainability Innovations

- Daniella has assisted in the development of many ocean-focused projects and hopes to improve current ideas with the **Sustainable Ocean Alliance Accelerator Program**, which is designed to assist solutionists who are focused on improving ocean health. Design an idea for a start-up organization and create an “elevator pitch” to present to Daniela.
- **Ocean Conservancy** In addition to nonprofit organizations that focus on the development of start-ups, organizations like Ocean Conservancy focus on ocean policy that is based on science-based solutions at both the federal and state government levels.
- When assessing the health of our oceans, identify the issue that is currently the greatest risk to its health. Research one organization that is similar to the **Sustainable Ocean Alliance** that is targeting the issue you have identified.

Sustainable Career Pathways

- **Oceanographer** An oceanographer is a scientist who studies the ocean, thereby helping to protect, conserve, and restore marine environments. Oceanographers can study the life, chemicals, fluid dynamics and physics, or even the geology of the oceans’ floors. Considering that oceans are the true “lungs” of the planet (producing up to 80 percent of the world’s oxygen)—and that climate change deeply threatens the ocean, both through warming and acidification—the world certainly needs more oceanographers. For more on this field and its vast diversity, visit [here](#).
- **Aquarist** Do you love marine animals but would rather care for them than study them? Aquarists care for marine life in aquariums and research facilities. This is a niche field and certainly an interesting [one to explore](#).
- **Aquaculturist** One of the great ways to heal the ocean is [growing kelp and shellfish to filter and clean it](#). Farming the seas, or [aquaculture](#), is a growth industry, as is working for companies that help seed aquaculture

operations. An aquaculturist oversees the breeding and growing of fish, staff management, and the operation of aquacultural systems. [Learn more here.](#)

- **Ocean Activist** If we are to reduce marine pollution, including plastic pollution, and overfishing, we're going to need more activists fighting for the well-being of the world's oceans. Organizing beach cleanups, advocacy efforts, and drawing attention to the [14th Sustainable Development Goal](#) are all ways to get involved right now. As you build your experience in activism, perhaps like Daniela you'll be able to make a career out of this passion as well! One way to get started might be to join the Sustainable Ocean Alliance's [Leadership Program](#).
- **Blue Entrepreneur** SOA also hosts an [Ocean Solutions Accelerator](#), offering mentoring and micro-grant funding to support new initiatives. Finding strategic ways to heal the ocean and creating a needed product or business service are great ways to make a career, and a difference in our world.

Call to Action: Join with the Sustainable Ocean Alliance in finding ways to heal and protect our oceans <https://www.soalliance.org>.

State Standards

California

- **ELA**
- **L.11-12.1:** Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. * b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent ,dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.
- **L.11-12.6:** Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
- **WHST.11-12.1:** Write arguments focused on discipline-specific content. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
- **W.11-12.1:** Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented. f. Use specific rhetorical devices to

support assertions (e.g., appeal to logic through reasoning; appeal to emotion or ethical belief; relate a personal anecdote, case study, or analogy).

- **W.11-12.3:** Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters. c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution). d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.
- **STEM**
- **HS-ESS3-1:** Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.
- **HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
- **HS-ETS1-1:** Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
- **HS-ETS1-2:** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering
- **HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.
- **HS-LS2-2:** Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems at different scales
- **HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity

Massachusetts

- **ELA**
- **RI.11-12.1:** Cite strong and thorough textual evidence to support analysis of what a text states explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- **W.11-12.1:** Write arguments (e.g., essays, letters to the editor, advocacy speeches) to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- **W.11-12.1.a:**
Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
- **W.11-12.1.b:**
Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
- **W.11-12.1.d:** Establish and maintain a style appropriate to the audience and purpose (e.g., formal for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
- **W.11-12.2:** Write informative/explanatory texts (e.g., essays, oral reports, biographical feature articles) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- W.11-12.3.a: Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create an appropriate progression of experiences or events.
- W.11-12.3.b: Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.
- SL.11-12.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 11-12 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively.
- SL.11-12.1.c:
Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
- SL.11-12.1.d: Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
- WCA.11-12.1: Write arguments focused on *discipline-specific content*.
- WCA.11-12.8: When conducting research, gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
- **STEM**
- HS.ESS.3.1: Construct an explanation based on evidence for how the availability of key natural resources and changes due to variations in climate have influenced human activity. Clarification Statements: Examples of key natural resources include access to fresh water (such as rivers, lakes, and groundwater), regions of fertile soils (such as river deltas), high concentrations of minerals and fossil fuels, and biotic resources (such as fisheries and forests). Examples of changes due to variations in climate include changes to sea level and regional patterns of temperature and precipitation.
- HS.ETS.1.1: Analyze a major global challenge to specify a design problem that can be improved. Determine necessary qualitative and quantitative criteria and constraints for solutions, including any requirements set by society.* Clarification Statement: Examples of societal requirements can include risk mitigation, aesthetics, ethical considerations, and long-term maintenance costs.
- HS.ETS.1.2: Break a complex real-world problem into smaller, more manageable problems that each can be solved using scientific and engineering principles.
- HS.ETS.1.3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, aesthetics, and maintenance, as well as social, cultural, and environmental impacts.
- HS.ETS.1.6: Document and present solutions that include specifications, performance results, successes and remaining issues, and limitations.
- HS.LS.2.2: Use mathematical representations to support explanations that biotic and abiotic factors affect biodiversity, including genetic diversity within a population and species diversity within an ecosystem. Clarification Statements: Examples of biotic factors could include relationships among individuals (feeding relationships, symbiosis, competition) and disease. Examples of abiotic factors could include climate and weather conditions, natural disasters, and availability of resources. Examples of mathematical representations include finding the average, determining trends, and using graphical comparisons of multiple sets of data.
- HS.LS.2.7: Analyze direct and indirect effects of human activities on biodiversity and ecosystem health, specifically habitat fragmentation, introduction of non-native or invasive species, overharvesting, pollution, and climate change. Evaluate and refine a solution for reducing the impacts of human activities on biodiversity and ecosystem health.* Clarification Statement: Examples of solutions can include captive breeding programs, habitat restoration, pollution mitigation, energy conservation, and ecotourism.

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